rrr

is 10 to 40 per cent in excess of the nominal capacity. When crane and ladle capacity is available this excess can be turned into output; otherwise it may be troublesome. The other uncertain factor is in the checker brickwork itself, the way it is set and its material, the space allowed for the passage of gas and air and thickness of the brick.

A number of more or less empirical rules have been proposed for arriving at the volume of checker or regenerator capacity. A. Consett makes the total regenerator volume 2 cu m per tonne (70 cu ft), and makes the air chamber 10 per cent larger than the gas chamber, for furnaces designed to make four melts per twenty-four hours. In *Notes et Formules* it is stated that " for slow furnaces the empirical relation between the volume of the regenerator and the charge of the furnace in tonnes is 0.8 cu m (28 cu ft) to 1.3 cu m (46 cu ft) per tonne; and for fast working furnaces from 53 to 64 cu ft per tonne." H. H. Campbell says from 50 to 100 cu ft per tonne of melting capacity. Gruner says 50 to 70 kg of checker brick per kilogram of coal burned per reversal. Told suggests 6 cu m or 2850 kg of checker brick per cubic meter of air pe?r second per 100° C. rise in temperature. Another suggestion is the provision of 50 sq m (537.5 sq ft, of checker surface per tonne (metric) of coal per twenty-four hours.

In Euchene's investigations on the carbonizing of coal he developed a formula for the heat-storage capacity of checker brickwork which may be stated as follows:

$$Qo' = 0.20H-0.000062*^{2},$$

in which Qo* = kilogram calories per kilogram of checker brick

between zero and t degrees C.; and in which t = temperature to which the brickwork is raised, degrees C.

Breslauer cites the regenerator data of a number of furnaces, giving the number of cubic meters of regenerator per ton of steel per hour.

His figures are given for a number of different plants as follows:

CUBIC METERS OF REGENERATOR PER TON OF STEEL PER HOUR

Dowailis..... 14.60	Graz..... 15.50	Haleside..... 16.75
Krupp, large.. .. 18.32	Landore..... 20.00	Pateg..... 20.60
Krupp, 3 ton.... 36.00	Terre Noire.. 30.00	Swedish..... 36.60
	Borsigwerke.... 44.00	Steelton, Pa_ 37.45